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ABSTRACT

The three parts of this study concern the application of diagnostic testing to measure the effectiveness of classification training, the development of a systematic approach to applying the results, and a long-term study of employee retention of classification information. The measurement instrument selected for diagnostic testing of employees of a Veterans Administration Hospital was a brief "True-False" test, developed in 1968, with 20 items and called a Prototype Diagnostic Test. An alternate test, developed in 1972, with 20 items and called a Classification Questionnaire, was used after completion of refresher training, and the results were compared with the diagnostic test score; thus it was possible to quantify the effectiveness of the refresher training. The test results were also used to evaluate Divisions and Services of the hospital. The long-range study of how long the average employee retained a satisfactory amount of classification information without refresher training utilized a random sample of 137 nursing assistants over a period of four years, after which they were tested with basically the same information. Statistical analysis of the results showed that the average score of the population fell from 86% to 80%. It is concluded that use of a diagnostic test covering basic classification information is an effective way to determine classification training needs, provide a basis for measuring the effectiveness of classification training, identify employees for remedial training, and provide for comparative evaluation of the program. (For related document, see TM 002 335.) (DB)

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A STUDY BY PERSONNEL DIVISION, VETERANS ADMINISTRATION HOSPITAL, BEDFORD, MA.

USE OF DIAGNOSTIC TESTING IN A CLASSIFICATION INFORMATION PROGRAM

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I. INTRODUCTION

This study concerns the application of diagnostic testing to measure the effectiveness of classification training, development of a systematic approach to applying the results, and a long-term study of employee retention of classification information. For detailed information about the conceptual framework utilized in developing this study, see "Training Evaluation: A Guide to its Planning, Development, and Use in Agency Training Courses."[1]

II. SELECTION OF MEASURING INSTRUMENT

In selecting diagnostic testing as a direct measurement instrument for this course, we briefly considered other evaluation methods such as trainee opinion polls or "course impressions", achievement tests, subjective tests and supervisory evaluations of employee knowledge. They were all considered less appropriate for one reason or another.

A course evaluation or impression of a class recorded by a trainer at the conclusion of training does not appear to be a true evaluation. It is more like a miniature popularity contest. At best, it is so highly subjective that it appears to be unsuitable for measuring the amount of information imparted by the instructor. An achievement test is useful as far as it goes, but since we don't know how much a class knew before the training, this kind of test alone will not tell us how much the class improved as

[1]Training Systems and Technology Series: No. IV. Bureau of Training, U. S. Civil Service Commission, May 1971, which is available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C.

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a result of our training session. Knowledge of classification information is not apparent on-the-job unless the employee is submitting an appeal: therefore, supervisory evaluations are also not an appropriate measuring device for this subject. Subjective tests are time consuming to evaluate and were rejected on the basis that quick, in-class feedback was an important goal.

III. DEVELOPING A DIAGNOSTIC TEST

Based on these considerations, we settled on a brief "True-False" test to be given without preceding training except what the employees were given in previous years. (This study excludes the initial training of new employees.) Following is a sample of the prototype test given in 1968:

1968 PROTOTYPE DIAGNOSTIC TEST

TM002 335

CLASSIFICATION QUESTIONNAIRE

YOUR NAME _____

YOUR DIVISION OR SERVICE _____

TODAY'S DATE _____

A. Answer the questions below by checking the word "YES" or "NO" in the space provided:

1. I have a copy of my job description. YES ( ) NO ( )

2. My job description is accurate and up-to-date YES ( ) NO ( )

B. Answer the following questions by drawing a circle around the word "TRUE" or "FALSE" after each question:

1. If I want to know how my job was classified, I can go to the Personnel Division, talk to the Position Classifier and see the Classification Standards used to decide the grade of my job.

TRUE FALSE

2. My supervisor is available to answer questions I may have about my job or my grade, and I would usually talk to him first.

TRUE FALSE

3. If, after talks with my supervisor and the Position Classifier, I still believe my grade should be higher, or classified in a different series, I do not have any further appeal rights.

TRUE FALSE

4. The more work my supervisor gives me to do, the higher my grade should be, even if the added jobs are the same as work I have been doing all along, and the work is in my job description.

TRUE FALSE

5. If I am assigned a new kind of work to do, and I am going to keep this new work as a regular part of my job, and the work is more important or more difficult than the work I have been doing, this new work should be added to my job description. The Position Classifier should look at the job description to see if my position is worth a higher grade.

TRUE FALSE

6. Everything I do on the job should be written down in my job description.

TRUE FALSE

7. I should be able to tell who my supervisor is from reading my job description.

TRUE FALSE

8. Classification standards show examples of jobs at different grades. The Position Classifier reads my position description and reads the classification standards for my job. Then he decides which example in the standard is most like my job, and assigns a grade.

TRUE FALSE

9. The same Classification standards are used all over the U.S. in Federal jobs like mine, so that an employee doing exactly the same job in Internal Revenue Service in Michigan as I am doing for the VA in Bedford, will have his position description classified with the same standards, will have the same grade and get the same pay as I do. This is one of the reasons we have classification standards.

TRUE FALSE

10. New Classification standards are written only by Personnel.

TRUE FALSE

11. My own service or division representatives help write classification standards. For example, Supply people help write standards for Supply jobs, Nursing people help write standards for Nursing jobs and so on.

TRUE FALSE

12. Once a classification standard has been written, it never changes, even if the work being done changes over the years.

TRUE FALSE

13. (GS employees only) The Civil Service Commission helps arrange for the study of new standards, writes the new standards in final form and then copies are sent to all of our stations. The Position Classifier has to check all

of the jobs at our station that are classified under the new standard. One of the things he checks is whether the grades of these jobs will change because the new standard is different than the old one.

TRUE FALSE

14. (GS employees only) The General Pay Schedule (GS) established under the Classification Act of 1949, (this is the schedule that tells how much you are paid, how often you get periodic increases and how much) is revised by Congress. For example, if everyone under the General Schedule gets a raise at the same time, it is because Congress has approved a new pay bill.

TRUE FALSE

15. (Wage Board employees only) The Veterans Administration Central Office arranges for the study of new classification standards, writes the new standard in final form and then copies are sent to all of our stations. The Position Classifier has to check all of the jobs at our station that are classified under the new standard. One of the things he checks is whether the grades of these jobs will change because the new standard is different than the old one.

TRUE FALSE

16. (Wage Board employees only) The pay scale for Wage Board employees is reviewed every year by surveying what people in the same jobs are making in private industry in this local area (Boston area, for example.) The wages collected on the survey are then sent to VA Central Office where they are studied and a new wage scale issued. The purpose of the survey is to see that our Wage Board employees are paid about the same as people doing the same work in local private industry.

TRUE FALSE

17. (Wage Board employees only) If wages paid in local private industry generally go <u>down</u>, you would expect your pay scale and wages to go <u>up</u>.

TRUE FALSE

18. If I am not satisfied that my job is properly classified, after talking to my supervisor and Personnel, I may appeal to the Veterans Administration Central Office.

TRUE FALSE

19. If the Veterans Administration Central Office turns me down on my appeal, I may then further appeal to the Civil Service Commission.

TRUE FALSE

20. (GS employees only) If I appeal to the Civil Service Commission first (that is, without appealing to the VA), then I may <u>not</u> appeal the decision of the Civil Service Commission to the VA.

TRUE FALSE

The purpose of the test was two-fold. One, to determine whether the employee had retained a satisfactory amount of current classification information, in which case he would not need to attend a class covering this information. Second, if the employee had not retained a satisfactory amount of information, the test was designed to provide a basis for measuring his improvement in subsequent training, as well as indicating what information he did not know; and, therefore, what should be emphasized in subsequent training.

Analysis of these goals will show certain subjective elements which must be noted. How much information is "satisfactory?" What classification information is considered "essential?" The answers to these questions will vary widely, depending on a variety of factors including the intelligence and motivation of the population trained, the practical limits of training efforts, the relative importance of the subject to management, as well as variations in determinations of what is basic to the subject by different trainers. Once these decisions were made, however, development of the test was predicated on objective principles.

a. <u>The Questions Were Carefully Limited to the Essential Information Agreed Upon.</u>

The use of secondary information was avoided. For example, there are no questions about the history of the Class Act, which was considered nonessential, even though this might have been used as introductory material in the classification information course. Our impression, based on experience, is that most employees do not have a strong interest in the history of the Class Act, nor do we believe there is an essential "need to know." Basically, we reasoned, employees tend to retain only information which contains strong elements of self-interest or which are essential to functioning on-the-job.

For example, employees tend to be very interested in their pay schedule and how it is determined. Employees need to know their appeal rights and how to obtain classification standards for review. These two underlined elements, then, became our criteria for what is essential.

b. The Test Was Validated in Several Ways

The test was given a dry run by administering it to several different populations, including our office staff, known experts, groups with diverse backgrounds and training. In this process we were successful in eliminating ambiguous questions and empirically establishing the validity of the test within reasonable limits for its use.

c. An Alternate Test Was Developed

To provide for retesting of the same population after remedial training, and for studies of long range decay of information remembered, it was necessary to develop an alternate test. The alternate test alters the sequence of presentation of questions and in some instances alters the wording of the original test. This is to prevent triggering remembered correct sequence of responses rather than remembered information. This test was validated in a similar manner to the first test, with ambiguous wording being gradually weeded out. This was facilitated by one-to-one discussions with office staff or experts to whom we had given the test. They frequently provided excellent feedback on questions liable to several different interpretations. Following is a sample alternate test used during 1972:

1972 ALTERNATE TEST - CLASSIFICATION QUESTIONNAIRE

YOUR NAME _____

YOUR DIVISION OR SERVICE _____

TODAY'S DATE _____

A. Answer the questions below by circling the word "YES" or "NO" as applicable:

1. I have a copy of my position description. Yes No

2. My position description is accurate and up-to-date. Yes No

B. Answer the following questions by circling the word "TRUE" or "FALSE" as applicable:

1. Everything I do on the job should be written into my position description.

TRUE FALSE

2. Any difficult or important work that I do regularly should be written in my position description.

TRUE FALSE

3. I should be able to tell who my supervisor is from reading my position description.

TRUE FALSE

4. My supervisor gives me more work to do. This new work is just as difficult as my old work. As a result of the increased workload, I should be given a higher grade.

TRUE FALSE

5. My supervisor assigns me work which is more complicated and difficult than I have been doing before. This work is going to become a regular part of my job. If my supervisor adds these new, more complex duties to my position description, the Position Classifier must review my position to see if the new duties will result in a higher grade for my job.

TRUE FALSE

6. Classification Standards are secret. Only Classification Specialists can see them.

TRUE FALSE

7. My supervisor is available to answer questions I may have about my job or my grade, and I would usually talk to him first.

TRUE FALSE

8. If I still want to know more about how my job was classified, I can go to the Personnel Division, talk to the Position Classifier and see the Classification Standards used to decide the grade of my job.

TRUE FALSE

9. If, after talks with my supervisors and the Position Classifier, I still believe my grade should be higher, or classified in a different series, I do not have any further appeal rights.

TRUE FALSE

10. If, after talking to my supervisor and the Position Classifier, I am still dissatisfied with the way my job has been classified, I may appeal to the Veterans Administration Central Office

TRUE FALSE

11. If the Veterans Administration Central Office turns down my appeal, I may then further appeal to the Civil Service Commission.

TRUE FALSE

12. (GS employees only) If I appeal to the Civil Service Commission first (that is, without appealin to the VA), then I may <u>not</u> appeal the decision of the Civil Service Commission to the VA.

TRUE FALSE

13. Classification Standards show examples of jobs at different grades. The Position Classifier reads my position description and reads the classification standard for my job. Then he decides which example in the standard is most like my job, and he assigns a grade to my job.

TRUE FALSE

14. New Classification Standards are written only by the Personnel Division.

TRUE FALSE

15. My own service or division representatives sometimes help write Classification Standards. For example, Supply people in Washington help write standards for Supply jobs, Nursing people help write standards for Nursing jobs, etc. Sometimes new standards are sent to our hospital for review before they are published.

TRUE FALSE

16. Once a Classification Standard has been written it never changes, even if the work being done changes over the years.

TRUE FALSE

17. The Civil Service Commission arranges for the study of new or revised standards, writes the new or revised standards in final form, and then sends copies to all of our hospitals. The Position Classifier has to check all of the jobs at our hospital that are classified under the

new or revised standards. One of the things he checks is whether the grades of these jobs will change because the new standard is different than the old one.

TRUE FALSE

18. (GS employees only) The same Classification Standards are used all over the United States in Federal jobs like mine. So, if I am a General Schedule (GS) employee, I will have the same grade as another GS employee in Michigan, if he does the same work that I do.

TRUE FALSE

19. (GS employees only) The Department of Labor (Bureau of Labor Statistics) conducts a national salary survey of private industry to determine how such salaries compare with salaries paid us under the General Pay Schedule (GS) for comparable work. The President has to approve the new pay schedule they recommend.

TRUE FALSE

20. (Wage Board employees only) If I am a CFWS (WS, WL, WG) employee, and I have exactly the same job as another CFWS employee in the Boston Naval Shipyard, I would have the same grade and pay, since we are both working in the same wage area.

TRUE FALSE

IV. THE TEST ENVIRONMENT

With the exception of the long range study to be discussed later, in testing our employees we incorporated the principle of immediate reinforcement as much as possible, so that the testing situation became, in part, a learning situation as well. This was done by scoring the test at the test site immediately, returning to each employee his scored test, and going over the test, question by question. This usually produced animated discussion, immediate reinforcement of correct information, and correction of inaccurate responses. Since considerable ego envolvement is evident in a testing situation, it was important to emphasize the diagnostic nature of the test. Going over the test gives a feeling of finality to the session which helps disguise the selective nature of subsequent remedial training. No time limit was used because we found 10-15 minutes adequate for everyone to finish. For quick administration and rapid key scoring it was important to keep the

test brief.

V. SCORING

Again the trainer will encounter the problem of subjectivity. How many incorrect answers are "too many?" Should any of the questions be "lock-out" questions? In other words, are there any questions which are considered mandatory for employees to answer correctly for minimum acceptable level of knowledge of classification information? As before, the answer will differ from one trainer to the next. We used cutting scores varying from 70 to 78%, depending on the scoring spread in different groups, with the questions related to availablity of standards and appeal rights as "lock-out" questions. Any employee who missed a lock-out question or scored lower than the cutting point for his group was scheduled for refresher training.

VI. USE OF TESTING RESULTS

It was apparent from initial results that using a diagnostic test was going to improve training effectiveness significantly. We had narrowed our audience, if not to those who would automatically be interested, at least to those who needed the information. Further we knew precisely what information they needed. Conversely, we had eliminated the presence of employees on whom our efforts would be wasted, and who would tend to react negatively because they already knew all the answers.

Further, the test results would serve as a basis for quantifying the existing knowledge about classification. This data in turn could be used to rate classification knowledge objectively by Division and Service. In addition, if we used the test after refresher training, we could quantify and demonstrate improvement related to the training.

a. Classification Refresher Training

Although we were careful to explain the nature of the diagnostic

test, we were also careful not to tell employees how we intended to use it. Nor did we identify the refresher training as "make-up" or "remedial training." We were careful not to make the employees scheduled for refresher training feel "singled out" in any way. One of the ways we avoided this stigma was to delay scheduling refresher training until several months after the diagnostic testing was completed in order to avoid the two events being connected. Another technique involved mixing employees from different Divisions and Services, and scheduling different employees from a given Division at several different sessions. This was accomplished automatically because the classes were composed on the basis of similar questions missed. This tended to make very inconspicuous the employees who passed the diagnostic test and who did not attend.

In two experimental situations at the end of our study we did announce the purpose of the test and the selective nature of the refresher training to two small groups. We concluded from subjective observations of class reactions that, although this approach is feasible to use and probably increases motivation to score high on the diagnostic test, it has a strong negative effect on subsequent refresher training and has other undesirable psychological effects if the "selecting out" aspects are emphasized. We have not used it since this trial.

Our last method of "smoke-screening" the remedial nature of refresher training: Although the refresher material was

geared to the needs of the specific group based on the results of their diagnostic test, this information was sandwiched between timely additional subject matter - for example, "how the new annual October review of GS pay works." If the audience constitutes CFWS employees, the topic might be "The new 5 step nonsupervisory CFWS wage schedule."

b. Using the Test to Evaluate Individual Employee Progress

At the conclusion of refresher training, employees were required to complete an alternate form of the test. By comparing the results with the diagnostic test score taken previously, it is possible to quantify the effectiveness of the training for each employee. Note the significant improvement in this comparison:

RESULTS OF FIRST SESSION
SELECTED CLASSIFICATION REFRESHER TRAINING
NURSING SERVICE

Name (Altered)	Results of Diagnostic Test FY'68	Results of Retest Following Refresher Training
SMITH	50.5	100
JONES	67	90
DOE	72.5	85
SMART	50.5	80
KILROY	78	80
EDWARDS	67	80
DAY	72.5	65
BRODIE	61.5	55

This comparison was attached to a memorandum to the Service concerned, emphasizing the new approach:

TO : Chief, Nursing Service (118)

FROM: Chief, Personnel Division (135)

SUBJ: Interim Results of Classification Remedial Training

1. Eight nursing assistants were given a one-hour refresher training class on Classification Information June 26, 19 . We have attached the results.

2. We believe you will agree that this group of employees was on the whole dramatically improved. We further believe that the results demonstrate that a diagnostic testing approach to classification training is effective. We plan to make minor revisions to the classification questionnaire, complete diagnostic testing of those nursing assistants who have completed initial orientation and who have not yet been tested. Following this operation we will furnish you a memorandum of results and a revised service average.

GEORGE F. FLANAGAN

Att.

Obviously we did not comment about the two employees whose scores went <u>down</u> instead of up! We were intrigued by these two scores and decided to work out a third procedure to follow up on such cases. We scheduled routine desk audits with these two employees which included another review of classification information. Several months after the refresher training we retested them with the original test. The results were mixed. One of the employees scored 80 and the other scored 55. We believe the trainer must draw the line somewhere, and we accordingly did not pursue this employee who scored 55 any further, except to make certain he was scheduled for refresher training the following year. (With similar results, we might add.) It is interesting to note that simple documentation of these procedures provides the trainer with rather clear evidence that if an employee is deficient in classification knowledge, it is not because of the lack of reasonable effort

by the trainer to make him otherwise.

c. Using the Test Results to Evaluate Divisions and Services

Using a simple statistical summary of results by Division, and subjectively determining adjective ratings that correspond to score ranges, it was easy to evaluate Divisions against this standard. We used the following adjective ratings and ranges:

0-69% Unsatisfactory

70-79% Satisfactory

80-89% High Satisfactory

90-100% Outstanding

Samples of summaries furnished to Nursing Service and Supply Division follow:

NURSING SERVICE SUMMARY

EMPLOYEE QUESTIONNAIRES

Date Tested 1/9 - 2/2, 19

SUMMARY

36	employees	at	100	-	3600
38	"	at	94.5	-	3591
52	"	at	89	-	4628
41	"	at	83.5	-	3423.5
21	"	at	78	-	1638
21	"	at	72.5	-	1522.5
7	"	at	67	-	469
4	"	at	61.5	-	246
1	"	at	56	-	56
3	"	at	50.5	-	151.5
2	"	at	45	-	90

NURSING SERVICE SUMMARY CONTINUED

1	"	at	39.5	-	39.5
227					19,455.0

OVERALL RATING: 85.7

EMPLOYEES REQUIRING REFRESHER TRAINING

(List of 18 employees)

SUPPLY DIVISION SUMMARY

EMPLOYEE QUESTIONNAIRE

Date Tested June 13, 19

SUMMARY

6	employees	at	100	-	600
1	"	at	95	-	95
3	"	at	94.5	-	283.5
1	"	at	89	-	89
1	"	at	85	-	85
1	"	at	83.5	-	83.5
4	"	at	78	-	312
17					1,548

1 employee transferred

OVERALL RATING: 91.0 (outstanding)

EMPLOYEES NOT TESTED

2 COYLE -- (leaving Friday) PCS

WYSNEWSKI -- (annual leave)

19 19 FT 6/13/

EMPLOYEES FOR PROGRAMMED REFRESHER TRAINING:

None

The Nursing Service Summary above was important to our study because it indicated that our questionnaire was getting a good "spread" of scores in a relatively large previously trained population, as well as that the number of employees below the "cutting" score of 72.5 was about what we would expect emperically from this group on the basis of previous experience. The high scores in Supply Division suggest a different course content may be in order for this group. Refresher training may be worthwhile for the four employees who scored 78. This depends on the objective of the trainer. In the first year these summaries were attached to a memorandum report to each Division and Service at the time of annual classification review. In the following year we were able to furnish comparitive data on the Division standings and get a new sense of direction for our training program. Following are two Supply Division summaries for that year and cover memorandum. Of interest is the method of adjusting the previous year's raw score in Section I of the summary. This approach is only one of many that could be used.

CLASSIFICATION INFORMATION PROGRAM, FY____

DIVISION/SERVICE: Supply

DATE, TRAINING & TESTING: June 10-24, 19

I. DIAGNOSTIC TESTING BASE: (last FY raw score, minus scores of employees transferred, separated or retested after remedial training, plus scores of employees transferred in)

Number of employees 13 Adjusted Raw Score 1246.5

II. RESULTS OF BASIC TRAINING/REFRESHER TRAINING:

5	employees	at	100	-	500
3	employees	at	89	-	267
8					767

III. FY SUMMARY

This FY: 21 employees at 2013.5 - 95.8 average (Outstanding)

Last FY: 91.0 (Outstanding)

Improvement in average 4.8

IV. EMPLOYEES NOT TESTED:
(None)

CLASSIFICATION INFORMATION TRAINING - SUPPLY DIVISION

INDIVIDUAL SCORES	LAST FY SCORE	THIS FY SCORE
I. DIAGNOSTIC TESTING		
DOE, John		78
II. BASIC COURSE NEW EMP.		
JAMES, Henry		100
COPPERFIELD, David		100
SMITH, John		100
III. SELECTIVE REFRESHER TRAINING		
SWIFT, Johnatham	83.5	100
TOLKIEN, R. R.	78	89
BROWN, Tom	78	89
CLEMENS, Samuel	78	89
JONES, John	78*	100
IV. TRANSFER IN		
HARP, Uriah	94.5	

TO : Chief, Supply Division (134) Date: June 26, 19

FROM: Chief, Personnel Division(135) (135)HWH:eml

SUBJ: Annual Review

1. As you know, during the last FY the Personnel Division conducted diagnostic testing of all employees to determine basic classification information knowledge. A Summary of Supply Division results was furnished to you in June, 19 indicating an overall rating of 91.0 (Outstanding).

2. This year, we are confining classification training to the following:

a. Basic Classification course for new employees.

b. Training for those employees who evidenced a need for such training, or brush-up in specific mandatory areas, such as appeal rights and availability of standards based on last years test results.

c. Special course for Wage Board employees to inform them about the new Coordinated Federal Wage Program, which will be implemented soon.

3. With the exception of the Wage Board course, which will be given to your wage board employees sometime next month, we have summarized classification training results on the attached sheets. We do not plan any testing for the wage board course.

4. Your new rating for this FY is 95.8 (Outstanding), an improvement of 4.8 over last year.

GEORGE F. FLANAGAN

Attach: (2)

On the individual score sheet, note that the test was used to evaluate the results of the basic course for new employees also, and that this data becomes part of the Division's score.

d. Station Comparative Evaluations

Once the station has gone thru a cycle of testing, it was a simple matter to summarize the Division and Service results and come up with a station rating.

CLASSIFICATION INFORMATION TEST - STATION SUMMARY FY __

DIVISION/SERVICE	Empl. Tested	Raw Score	Average Score	Adjective Rating	# for Training	Not Tested
SUPPLY	17	1548	91.0	Outst.	0	2
DENTAL	8	782	97.7	Outst.	*1	0
RADIOLOGY	3	256	85.3	HS	0	0
CHAPLAINS	5	488	97.6	Outst.	0	0
PM&R	34	3108.5	91.4	Outst.	0	5
NURSING	227	19455.0	85.7	HS	19	45

RESEARCH	13	1150	88.5	HS	1	0	
ENGINEERING	76	6695	87.6	HS	8	18	
LABORATORY SVC.	5	373.5	74.7	Sat.	2	0	**
BLDG. MANAGEMENT	78	5938.5	76.1	Sat.	37	18	***
PERSONNEL	7	667	95.2	Outst.	0	0	*****
MEDICAL ADMIN.	80	7142	89.3	HS	1	15	
DIETETIC	123	10306	83.8	HS	11	18	
NURSING HOME CARE	15	1236	82.4	HS	0	3	
SOCIAL WORK	20	1884.5	94.2	Outst.	0	0	****
FISCAL	9	856	95.1	Outst.	0	0	
CLINICAL PSY.	6	583.5	97.3	Outst.	0	1	
COUNSELING PSY.	15	1362.5	90.8	Outst.	0	0	
PHARMACY	4	372.5	93.1	Outst.	0	0	
DIRECTOR & COS	15	1406.5	93.8	Outst.	0	0	
SURGICAL	3	261.5	87.2	HS	0	0	
MEDICAL	2	183.5	91.7	Outst.	0	0	
STATION	765	65958.0	89.122 86.2196	HS	80	129	

*Secretary **** 5 Supervisors tested but not recorded (all Outst.)
*****Retested May 19__ ***special effort needed here Outstanding 11
**recommend refresher training for all High Sat. 10

Based on this summary, the trainer can say, "we have a high satisfactory classification information program, but we need to concentrate on Building Management Division and Laboratory Service to raise their level of understanding." The summary also provides additional valuable information; i.e., how many people require refresher training? How many have not been tested? etc. The results also strongly suggest where supervisory training may be desirable, and produce a basis of discussion with the Chief of the Division.

There are other station summaries which may prove useful in the classification review program, or to pinpoint lack of critical information. One such summary gives the results of Section A of the test which asks whether the employee has a copy of his position description, and whether it is accurate. In addition, this summary gives the results of the classifier's follow-up of problems pinpointed. It may show trends over a two year span that alert the classifier where to concentrate position description review efforts.

CLASSIFICATION INFORMATION TEST - STATION SUMMARY FY-- (p.d.-position description

DIVISION/SERVICE	Emp. Tested	Stated no p.d.	* % having p.d.	Stated pd inacc.	Proved Acc.	Adden./ Redes.	% p.d.'s Accurate
Supply	17	1	94%	1	0	1	94%
Dental	8	0	100%	0	0	0	100%
Radiology	3	0	100%	0	0	0	100%
Chaplains	5	0	100%	0	0	0	100%
PM&R	34	4	88%	7	1	6	82%
Nursing	227	26	88%	16	14 ***	2	99%
Research	13	0	100%	0	0	0	100%
Engineering	76	7	91%	4	3	1	99%
Laboratory	5	0	100%	0	0	0	100%
BMD	78	6	92%	2	1	1	99%
Personnel	7	0	100%	1	1	0	100%
MAD	80	14	85%	15	8	7	88%
Dietetic	123	17	86%	2	2	0	100%
NHCU	15	0	100%	0	0	0	100%
Social Work	20	0	100%	0	0	0	100%
Fiscal	9	0	100%	0	0	0	100%
Clin. Psy.	6	0	100%	0	0	0	100%

Coun. Psy.	15	0	100%	3	**	3	100%
Pharmacy	4	0	100%	0	0	0	100%
Dir./COS	15	0	100%	2	0	2	87%
Surgical	3	0	100%	0	0	0	100%
Medical	2	0	100%	0	0	0	100%
TOTAL STATION	765	75	90%	53	30	23	97%

*In most instances position descriptions had been furnished but were lost by employees. Additional position descriptions were furnished. Most divisions have records reflecting that employees signed a receipt for pos. descriptions.

**Service had already submitted redescriptions or addendums which were pending classification.

***Complaints were related to lack of understanding of special multi-job description for Nursing Assistants.

Following is a station summary on the basis of the "lock-out" questions. There is the expected very close correlation between those Divisions with low ratings on the test overall and those low on the "lock-out" questions, but some additional low Divisions suggest additional areas for improvement. The ques= tion numbers are related to the 1968 prototype test.

CLASSIFICATION INFORMATION TEST - STATION SUMMARY

	(Availability of Standards)				(Appeal Rights)		
DIVISION/SERVICE	Emp. Tested	#correct quest.#1	%Correct	Adj. Rating	#correct #18-20	%correct	Adj. Rating
Supply	17	16	94%	Out.	45	90%	Out.
Dental	8	8	100%	Out.	24	100%	Out.
Radiology	3	3	100%	Out.	7	78%	Sat.*
Chaplains	5	5	100%	Out.	13	87%	H.Sat.
PM&R	34	34	100%	Out.	99	97%	Out.
Nursing	227	221	97%	Out.	624	92%	Out.
Research	13	13	100%	Out.	34	87%	H.Sat.
Engineering	76	74	97%	Out.	197	86%	H.Sat.

Laboratory	5	5	100%	Out.	10	67%	Unsat.*
Bldg. Mgmt.	78	76	97%	Out.	179	76%	Sat.*
Personnel	7	7	100%	Out.	21	100%	Out.
Med. Admin.	80	79	99%	Out.	191	80%	H.Sat.
Dietetic	123	122	99%	Out.	312	85%	H.Sat.
NHCU	15	15	100%	Out.	30	67%	Unsat.*
Social Work	20	20	100%	Out.	58	97%	Out.
Fiscal	9	9	100%	Out.	25	93%	Out.
Clin. Psy.	6	6	100%	Out.	18	100%	Out.
Coun. Psy.	15	15	100%	Out.	42	93%	Out.
Pharmacy	4	4	100%	Out.	12	100%	Out.
Dir. & COS	15	15	100%	Out.	43	94%	Out.
Surgical	3	3	100%	Out.	9	100%	Out.
Medical	2	2	100%	Out.	6	100%	Out.
STATION TOTAL	765	752	98%	Out.	1999	87%	H.Sat.

*Remedial training to be given during next annual review.

VII. OTHER USES CONSIDERED

The feasibility of loading personnel program review questions in addition to those in Section A of the test, was considered and rejected. The number of additional questions required and the subjective nature of much of this kind of material would make the test cumbersome and time consuming. A regular, separate attitude survey is considered a more satisfactory solution to overall personnel program review even if some duplication of effort is involved.

VIII. RETENTION OF CLASSIFICATION INFORMATION

The use of this short test raised many questions for the trainer, but perhaps the most significant was, "How long will the average employee retain a satisfactory amount of classification information without refresher training?"

To attempt to answer this question, a long-range study was conceived. It was decided to omit all classification training for a random selection of some 200 nursing assistants for a period of four years and then retest them with basically the same information. The purpose was to find out how much their scores "decayed." A statistical analysis of the results is given below:

STATISTICAL SUMMARY OF 4 YEAR STUDY - CLASSIFICATION INFORMATION RETENTION

EMPLOYEE NUMBER	'68 Test Score	'72 Test Score	Deviation (-)	Deviation (0)	Deviation (+)	Rank
1	100	100		0		1.0
2	94.5	100			5.5	+43.0
3	89	100			11	
4	72.5	100			27.5	+119.0
5	100	95	-5			41.5
6	100	95	-5			41.5
7	94.5	95			.5	+2.5
8	94.5	95			.5	+2.5
9	89	95			6	+44.0
10	78	95			17	+95.0
11	67	95			28	+120.0
12	45	95			50	+133.5
13	100	90	-10			71.5
14	100	90	-10			71.5
15	100	90	-10			71.5

16	100	90	-10		71.5
17	94.5	90	- 4.5		37.5
18	94.5	90	-4.5		37.5
19	94.5	90	-4.5		37.5
20	94.5	90	-4.5		37.5
21	94.5	90	-4.5		37.5
22	94.5	90	-4.5		37.5
23	89	90		1	+6
24	89	90		1	+6
25	89	90		1	+6
26	89	90		1	+6
27	89	90		1	+6
28	83.5	90		6.5	+46.5
29	83.5	90		6.5	+46.5
30	83.5	90		6.5	+46.5
31	83.5	90		6.5	+46.5
32	78	90		12	+74.0
33	72.5	90		17.5	+97.0
34	100	85	-15		91.5
35	100	85	-15		91.5
36	100	85	-15		91.5
37	100	85	-15		91.5
38	100	85	-15		91.5
39	94.5	85	- 9.5		67.0
40	94.5	85	- 9.5		67.0
41	94.5	85	- 9.5		67.0
42	94.5	85	- 9.5		67.0

43	94.5	85	-9.5		67.0
44	89	85	-4		32.5
45	89	85	-4		32.5
46	89	85	-4		32.5
47	89	85	-4		32.5
48	83.5	85		+1.5	10
49	83.5	85		+1.5	10
50	83.5	85		+1.5	10
51	78	85		+7	49
52	72.5	85		+12.5	76.0
53	72.5	85		+12.5	76.0
54	65	85		+20	109.0
55	56	85		+29	122.5
56	100	80	-20		109.0
57	100	80	-20		109.0
58	100	80	-20		109.0
59	100	80	-20		109.0
60	100	80	-20		109.0
61	100	80	-20		109.0
62	100	80	-20		109.0
63	94.5	80	-14.5		87.0
64	94.5	80	-14.5		87.0
65	94.5	80	-14.5		87.0
66	67	80		+13	78.5
67	89	80	-9		62
68	89	80	-9		62
69	89	80	-9		62
70	89	80	-9		62

71	89	80	-9		62.0
72	83.5	80	-3.5		25.5
73	83.5	80	-3.5		25.5
74	83.5	80	-3.5		25.5
75	83.5	80	-3.5		25.5
76	83.5	80	-3.5		25.5
77	83.5	80	-3.5		25.5
78	83.5	80	-3.5		25.5
79	83.5	80	-3.5		25.5
80	78	80		+2	13.5
81	78	80		+2	13.5
82	78	80		+2	13.5
83	78	80		+2	13.5
84	72.5	80		+7.5	51.0
85	72.5	80		+7.5	51.0
86	67	80		+13	78.5
87	100	75	-25		118.0
88	94.5	75	-19.5		103.5
89	94.5	75	-19.5		103.5
90	89	75	-14		84.0
91	89	75	-14		84.0
92	89	75	-14		84.0
93	83.5	75	-8.5		56.0
94	83.5	75	-8.5		56.0
95	83.5	75	-8.5		56.0
96	83.5	75	-8.5		56.0
97	83.5	75	-8.5		56.0
98	50.5	75		+24.5	115.0
99	83.5	75	-8.5		56.0

100	78	75	-3		18
101	78	75	-3		18
102	78	75	-3		18
103	72.5	75		+3.5	25.5
104	72.5	75		+3.5	25.5
105	100	70	-30		126.0
106	100	70	-30		126.0
107	100	70	-30		126.0
108	94.5	70	-24.5		115.0
109	94.5	70	-24.5		115.0
110	94.5	70	-24.5		115.0
111	94.5	70	-24.5		115.0
112	89	70	-19		101.0
113	89	70	-19		101.0
114	89	70	-19		101.0
115	83.5	70	-13.5		81.0
116	83.5	70	-13.5		81.0
117	72.5	70	-2.5		
118	83.5	70	-13.5		81.0
119	67	70		+3	18.0
120	67	70		+3	18.0
121	61.5	70		+8.5	56.0
122	39.5	70		+30.5	128.0
123	100	65	-35		132.0
124	94.5	65	-29.5		124.0
125	80	65	-15		91.5
126	72.5	65	-7.5		51.0
127	94.5	60	-34.5		130.0

128	94.5	60	-34.5		130.0
129	94.5	60	-34.5		130.0
130	89	60	-29		122.5
131	83.5	60	-23.5		
132	78	60	-18		99.0
133	72.5	60	-12.5		76.0
134	83.5	55	-28.5		121.0
135	72.5	55	-17.5		97.0
136	72.5	55	-17.5		97.0
137	100	50	-50		133.5
TOTALS	11802.5	10905.0	1313.0	0	417.5
	Employees 137				
AVERAGES:	86%	80%	93	1	43

The population, due to turnover, was reduced to 137 during the 4 year "decay" period. Of the 137 employees, only 15 had scores which fell below the acceptable level of 70 during the period or about 11%. The average score of the population fell from 86% to 80%. In other words, this group would have the same adjective rating as prior to the test. It is likely that another group could conceivably fall by as much as one adjective rating. Some interesting, if academic, results were observed. Forty-three employees improved their scores on their own, for reasons undetermined. Eleven of these moved from unsatisfactory to satisfactory ratings or better. This accounts in part for the small drop in overall rating.

It is suggested by this study that the amount of information loss is such that a number of alternatives may be considered:

(1) Retesting every four years is possible for an average program.

(2) It may be considered desirable to reduce the information loss

thru a two year retesting and selective training cycle. The frequency of retesting should be weighed against the effect on employee interest.

(3) It may very well be that the frequency of retesting is best dictated by the adjective rating of the population. In other words, wait four years to retest an outstanding group, retest a satisfactory group every year.

IX. CONCLUSIONS

We conclude that the systematic use of a diagnostic test covering basic classification information is an effective way to (1) quantitatively and selectively determine classification training needs (2) provide a basis for measuring the effectiveness of classification training given on an individual and collective basis (3) identify employees for selective remedial training and (4) provide a basis for comparative evaluation of this program.

We further conclude that diagnostic testing improved the quality and effectiveness of this classification training program and provided a basis for selecting future classification course material more effectively.